Scientific Bulletin
of Politehnica University of Timisoara, Romania

Transactions on ENGINEERING AND MANAGEMENT

Vol. 2, Issue 1, 2016

Students' entrepreneurial potential and the role of entrepreneurial education - A Comparative study between Romania and Greece

Kerstin SIAKAS[6], Claudiu Tiberiu ALBULESCU[7], Anca DRAGHICI[8], Matei TAMASILA[9]

Abstract – The purpose of this paper is twofold. On the one hand, the paper draws a comparison between the national entrepreneurial potential and characteristics in Romania and Greece, using the Global Entrepreneurship Monitor (GEM) statistics. On the other hand, the paper aims to investigate the students' entrepreneurial potential and the role of education, considering the case of two technical universities, one from Greece and one from Romania. While at national level the latest GEM data indicates a higher entrepreneurial potential for Romania, the institutional comparison made, and the statistical data processing, underline the gap of entrepreneurial education in both universities. More precisely, using the questionnaire approach, we show that students hardly perceive the role of courses related to entrepreneurship. Thus, the courses taught at the analyzed universities fail in highlighting and developing entrepreneurial skills, although their structure and topics are related to entrepreneurship. These results have practical implications and they serve to find solutions for improving the entrepreneurial education in both institutions.

Keywords: entrepreneurial potential, entrepreneurship education, survey, Greece, Romania.

I. INTRODUCTION

Entrepreneurship is considered one of the most powerful economic forces known to humankind [7], which enhances productivity, and contributes to the economic development [16]. It supposes the existence and use of creativity and innovation, but also risk taking and passion. Entrepreneurship is perceived as "any attempt at new business or new venture creation, such as self-employment, a new business organization, or the expansion of an existing business, by an individual, a team of individuals, or an established business" [13].

Alongside the impact of exposure to entrepreneurial activities [23], self-efficacy and risk-taking capacity [6], and even gender [8, 10, 21], the role of the entrepreneurial education cannot be neglected [9, 15, 18] in enhancing the intentions to entrepreneurship. While there is a plethora of studies that investigate the role of education in developing the entrepreneurial skill, and favoring entrepreneurial intentions, only few of them focus on the role of higher education [11, 12]. Further, as far as we know, there are no studies that perform a cross-country comparison between two higher education institutions, starting from a comparison between the national entrepreneurial potential ([3] represents an exception).

To fill in this gap, we start our analysis from an ample comparison between two countries with a different historical economic background, namely Greece and Romania. While Greece benefited from a market economy system, where the initiative to start and develop new ventures was encouraged, Romania is a former communist country, where the entrepreneurial attitude was completely discouraged before 1990. We continue this analysis with the assessment of students' entrepreneurial potential and the role of the entrepreneurial education in two technical universities, namely the Alexander Technological Educational Institute of Thessaloniki (from Greece), and the Politehnica University of Timisoara (from Romania). Indeed, [3] a comparison between the entrepreneurial courses in the above-mentioned higher education institutions was done. However, the authors of [3] did not confront their findings with the national entrepreneurship potential, neither did they provide the practical implications of their study.

II. A COMPARISON BETWEEN THE ENTREPRENEURIAL POTENTIAL OF GREECE AND ROMANIA

The Global Entrepreneurship Monitor provides high quality reports about the entrepreneurial activity worldwide. It is well known that the GEM is a trusted

[6] Alexander Technological Educational Institute of Thessaloniki, Greece, e-mail: siaka@it.teithe.gr
[7] Politehnica University of Timisoara, Romania, e-mail: claudiu.albulescu@upt.ro
[8] Politehnica University of Timisoara, Romania, e-mail: anca.draghici@upt.ro
[9] Politehnica University of Timisoara, Romania, e-mail: matei.tamasila@upt.ro

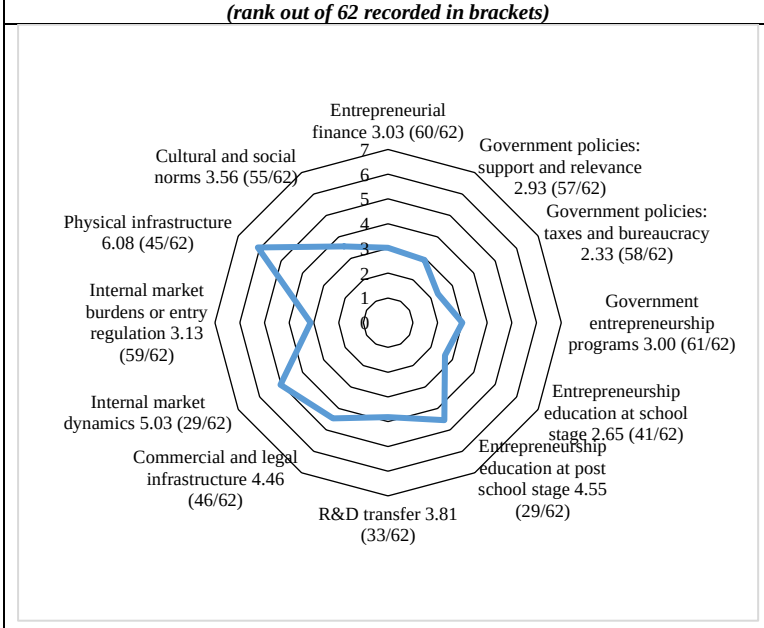
resource on entrepreneurship data for key international organizations like the United Nations, World Economic Forum, World Bank, and the Organization for Economic Co-operation and Development [5]. Noteworthy studies employ the GEM data for their analysis [1], or even make a bibliometric analysis of researches that use these data [16].

Starting from the last 2015/2016 global report [5], figure 1 and 2 present the two countries' entrepreneurial profile, and some information regarding their economic development. According to the GEM report, Greece is an innovation-driven economy, while Romania is an efficiency-driven economy. In Greece (Figure 1), the total early-stage entrepreneurial activity increased over the last year. However, only 60% of the population consider that entrepreneurship is a good career choice. These results might be influenced by the recent debt crisis experienced by Greece.

Greece - Economic indicators

- Population: 11.10 million (2014)
- GDP: $238.0 billion (2014)
- GDP per capita: $21,653 (2014)
- SME contribution to GDP: 75% (2014)
- World Bank Doing Business Rating: 68/100; Rank: 60/189
- World Bank Starting a Business Rating: 91/100; Rank: 54/189
- World Economic Forum Global Competitiveness Rating: 4.0/7; Rank: 81/140
- Economic Development Phase: Innovation-Driven

Expert Ratings of the Entrepreneurial Eco-system (rank out of 62 recorded in brackets)



Entrepreneurship characteristics

Self-Perceptions About Entrepreneurship	***Value %***	***Rank/60***
Perceived opportunities	14.2	60
Perceived capabilities	46.8	34
+Fear of failure	46.9	55
*Entrepreneurial intentions	8.3	51
Activity	***Value %***	***Rank/60***
Total Early-stage Entrepreneurial Activity		
TEA 2015	6.7	49
TEA 2014	7.9	n/a
TEA 2013	5.5	n/a
Established business ownership rate	13.1	11
Entrepreneurial Employee Activity – EEA	1.0	43T
Motivational Index	***Value %***	***Rank/60***
Improvement-Driven Opportunity/Necessity Motive	1.5	42T
Gender Equity	***Value %***	***Rank/60***
Female/Male TEA Ratio	0.8	13T
Female/Male Opportunity Ratio	0.9	24T
Entrepreneurship Impact	***Value %***	***Rank/60***
Job expectations (6+)	4.3	57
Innovation	1.6	47T
Industry (% in Business Services Sector)	19.4	23
Societal Value %s About Entrepreneurship	***Value %***	***Rank/60***
High status to entrepreneurs 31	67.8	31
Entrepreneurship a good career choice	60.9	29T

Fig. 1. Entrepreneurship country profile for Greece [5]

Romanians have similar perceived capabilities, but the perceived opportunity to start a business is over 33% (Figure 2). However, both countries are placed in the last quartile regarding the way the respondents see the opportunity to start a business. Different from Greece, in Romania the entrepreneurial activity is highly appreciated.

Information on entrepreneurial dynamics for Romania and Greece is presented in Figure 3. The total early-stage entrepreneurial activity rate (percentage of individuals aged 18-64 in an economy who are in the process of starting a business or are already running a new business, not older than 42 months) in Romania is 11.3%, a higher rate than in Greece (7.9%). The established business ownership rate (percentage of individuals aged 18-64 in an economy who own and manage a business older than 42 months) reaches in Greece 12.8%, overpassing that of Romania (7.6%). The discontinuation rate (percentage of individuals aged 18-64 who owned a business but discontinued it for different reasons during the last 12 months) is around 3% in both countries. The results can be

explained by the economic development gap between the two countries. Romanian entrepreneurs are more active in the early stage, and Greeks entrepreneurs are considered to be more mature.

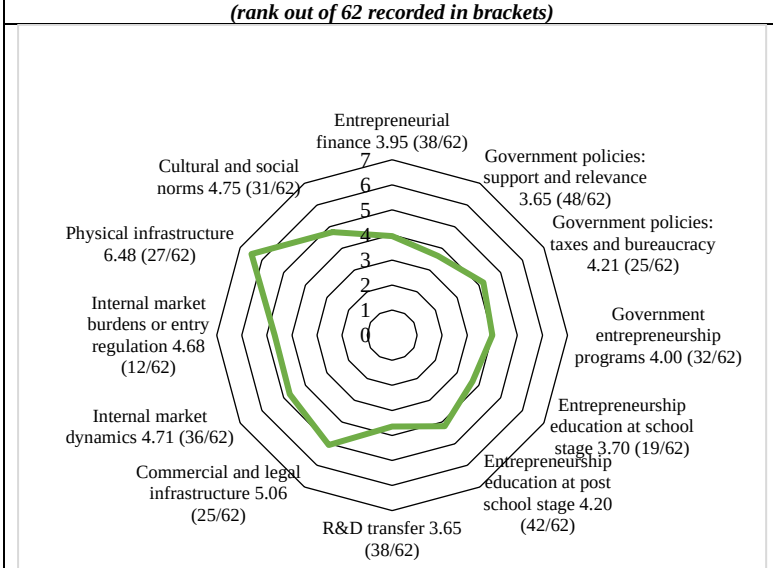
Romania - Economic indicators	***Entrepreneurship characteristics***		
- Population: 19.9 million (2014) - GDP: $200.0 billion (2014) - GDP per capita: $10,035 (2014) - SME contribution to GDP: 50% (2014) - World Bank Doing Business Rating: 74/100; Rank: 37/189 - World Bank Starting a Business Rating: 92/100; Rank: 45/189 - World Economic Forum Global Competitiveness Rating: 4.3/7; Rank: 53/140 - Economic Development Phase: Efficiency-Driven	***Self-Perceptions About Entrepreneurship***	***Value %***	***Rank/60***
	Perceived opportunities	33.3	45
	Perceived capabilities	46.3	35
	+Fear of failure	40.5	42
	*Entrepreneurial intentions	29.0	16
	Activity	***Value %***	***Rank/60***
	Total Early-stage Entrepreneurial Activity TEA 2015 TEA 2014 TEA 2013	10.8 11.4 10.1	30T n/a n/a
Expert Ratings of the Entrepreneurial Eco-system (rank out of 62 recorded in brackets)	Established business ownership rate	7.5	25
	Entrepreneurial Employee Activity – EEA	4.6	17
	Motivational Index	***Value %***	***Rank/60***
	Improvement-Driven Opportunity/Necessity Motive	1.2	49
	Gender Equity	***Value %***	***Rank/60***
	Female/Male TEA Ratio	0.5	38T
	Female/Male Opportunity Ratio	1.1	3T
	Entrepreneurship Impact	***Value %***	***Rank/60***
	Job expectations (6+)	39.8	4
	Innovation	3.2	27T
	Industry (% in Business Services Sector)	17.6	29
	Societal Value %s About Entrepreneurship	***Value %***	***Rank/60***
	High status to entrepreneurs 31	75.1	18
	Entrepreneurship a good career choice	72.4	12

Fig. 2. Entrepreneurship country profile for Romania [5]

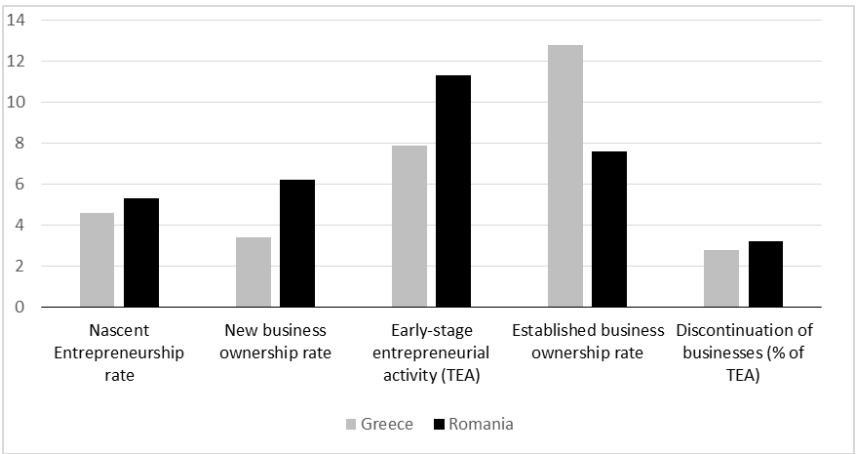


Fig. 3. Phases of entrepreneurial activity in the GEM economies in 2015, by geographic region (% of population aged 18-64) [5]

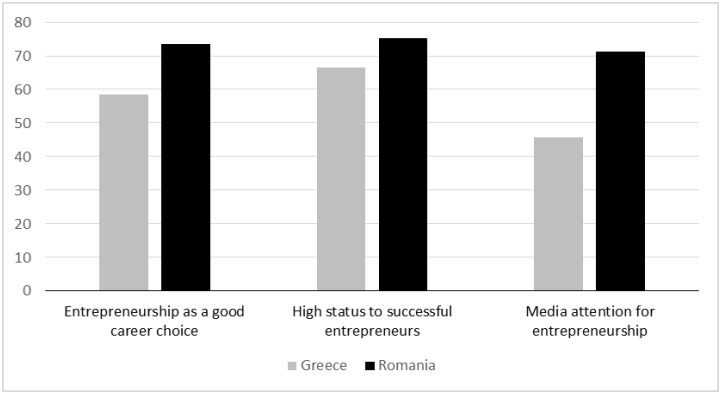


Fig. 4. Phases of entrepreneurial activity in the GEM economies in 2015, by geographic region (% of population aged 18-64) [5]

There is a clear difference between Romania and Greece in terms of social values towards entrepreneurship. Indeed, Romanians have a strong, positive perception related to these features, while this is not the case for the Greeks, especially for the media attention for entrepreneurship (Figure 4).

Figure 5 provides a comparison in terms of individual attributes towards entrepreneurship in the two countries. Perceived capabilities are higher than perceived opportunities in both countries. Similar results are reported by [3], using the GEM statistics for 2013, which shows that there is no significant change recorded in the comparison over the last years.

In this context, the objective of the present paper is to discuss the comparative survey results obtained in two universities (from Romania and Greece) in order to discover gaps of entrepreneurship education in terms of learning outcomes perception. The research aims to investigate students' entrepreneurship potential and the education in the field.

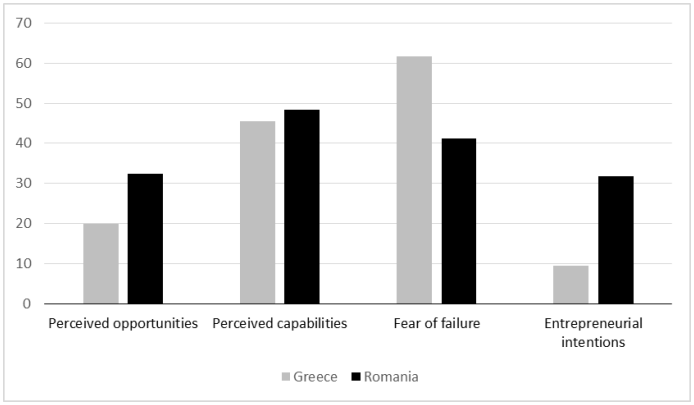


Fig. 5. Individual attributes towards entrepreneurship (% of population aged 18-64) [5]

III. THE ENTREPRENEURSHIP EDUCATION: A CHALLENGE FOR THE EU

The main initiative in the field of entrepreneurship in the European Union (EU) is defined by the 2020 Action Plan[10] which proposes "to bring Europe back to growth and create new jobs, we need more entrepreneurs". According to the proposed strategy and the associated plan, three areas for immediate intervention were identified:

a. "Entrepreneurial education and training to support growth and business creation;
b. Removing existing administrative barriers and supporting entrepreneurs in crucial phases of the business lifecycle;
c. Reigniting the culture of entrepreneurship in Europe and nurturing the new generation of entrepreneurs".

On the other hand, the European Commission reports from 2014 [4] regarding entrepreneurship education highlights the following needs:

- "Introduce entrepreneurship as an explicit curriculum objective for formal and non-formal education at national level, supporting this with implementation guidelines;
- Ensure that curriculum frameworks are flexible enough to enable introduction of more innovative teaching and assessment methods, giving educators and education institutions the flexibility to choose the most appropriate approaches for their teaching;

[10] The Entrepreneurship 2020 Action Plan, https://ec.europa.eu/growth/smes/promoting-entrepreneurship/action-plan_ro

- Encourage interdisciplinary curriculum approaches to support and enhance the introduction of entrepreneurial methodologies at education institution level; make practical entrepreneurial experiences widely available throughout all stages of education and training, with a minimum of one during compulsory education for all learners;
- Make entrepreneurial learning relevant to the real-world through active engagement between education, business and community, particularly in the design and development of practical entrepreneurial experiences;
- Encourage the use of innovative Information and Communication Technologies (ICTs) based learning in entrepreneurship education
- Share good practice and encourage collaboration between formal and non-formal education environments".

Consequently, the challenge is to develop interdisciplinary approaches, making entrepreneurship education accessible to all students specialization curricula, creating teams for the development and exploitation of business ideas, mixing students from economic, business, engineering studies with students from other specializations and with different backgrounds (by interdisciplinary training modules or courses) [14, 20]). Universities have a key role in these developments, through their high quality and effective entrepreneurship programs [2].

In 2015, the European Parliament adopted a resolution on promoting youth entrepreneurship through education and training. In this context, it was recognized that: "*Some Member States have yet to develop a cross-cutting policy or a strategic approach to entrepreneurship education or entrepreneurial curricula and teaching methods; whereas not all teachers and education leaders in Europe are sufficiently trained in entrepreneurship education'; and 'stresses the need for a broad approach to entrepreneurship as a set of transversal key competences for personal and professional purposes*"[11].

Furthermore, the European countries are characterized by high youth unemployment rates, and rapid changes related to the ongoing complex knowledge-based economy and society. In this context, transversal skills such as entrepreneurship are essential not only to shape the mindsets of young people, but also to provide the skills, knowledge and attitudes that are central to developing an entrepreneurial culture.

In this context, defining entrepreneurship education represents a big challenge. Classical business or economic studies are not enough to develop an entrepreneurial culture. It was therefore agreed that existing activities and programs, recognized as education for entrepreneurship, are those that include at least two of the following elements [2, 9, 11, 12]:

a. "Developing those personal attributes and generally applicable (horizontal) skills that form the basis of an entrepreneurial mindset and behavior;
b. Raising students' awareness of self-employment and entrepreneurship as possible career options;
c. Work on practical enterprise projects and activities, for instance students running small companies;
d. Providing specific business skills and knowledge of how to start and successfully run a company".

Some relevant aspects regarding the status and the dynamics of the entrepreneurship education in Europe were presented by [2]. Research shows generally low levels of participation in practical entrepreneurial learning at school and a need to further develop the entrepreneurial skills of young people. According to the special Eurobarometer survey, Entrepreneurship in the EU and beyond, published in 2012, just less than a quarter (23 %) of the EU respondents said they had taken part in a course or activity at school relating to entrepreneurship, defined as turning ideas into action and developing one's own project. Furthermore, younger respondents were twice as likely to have taken part in an entrepreneurship course.

IV. RESEARCH DESIGN AND METHODOLOGY

The comparative study was developed in the Alexander Technological Educational Institute of Thessaloniki (ATEITH), Business Administration and Economics and Informatics Departments (Greece) and the Politehnica University of Timisoara (UPT), Faculty of Management in Production and Transportation (Romania), using a survey approach. The subjects of the investigation are the students from both institutions. Given the structure of the courses, and the availability of students to complete questionnaires, for the ATEITH, the Bachelor students (250 persons) are the main respondents. They are enrolled in three programs in the field of marketing, and they follow classes with the teaching staff of the Business Administration and Economics Department and of the Informatics Department.

In the case of the UPT, the targeted students (239 persons) follow three on-going Master programs: Engineering and Competitive Management, Engineering and Logistic Systems Management and Entrepreneurship and Business Administration. Few respondents from both universities have already completed a Master program and they currently follow another one. For both institutions the survey was conducted for the academic year 2015-2016.

[11] European Parliament resolution of 8 September 2015 on promoting youth entrepreneurship through education and training. (2015/2006 (INI)).

As we have stated, the research objective is to assess the students' entrepreneurship potential and the education in the field, in the case of two higher education institutions. The self-administered questionnaire used in the survey has the following structure. The first section is meant to characterize the sample, analyzing the gender, the age, the completed education level and the attended specialization. The second section contains ten questions related to students' entrepreneurial potential and entrepreneurial education.

The questionnaire was filled in by 193 students (99 students from UPT and 94 from ATEITH), and all the questionnaires were considered valid. The response rate was 41.42% in Romania, while the students' response rate in Greece was 37.60%. Using SPSS, contingency tables were designed to display the multivariante frequency distribution of the variable. The general statistics implies the calculation of the probability (p), the Pearson's chi-squared test $\chi 2$, the Student t – test, the Mann-Whitney U test, the z-score testing, the Odds R(OD) and the Confidence Intervals (CI).

V. SAMPLE CHARACTERIZATION

From the gender point of view, we notice that the two samples are not homogenous ($\chi 2(1)=27.07$, $p<0.001$).

As expected, given the education level of the students included in the survey (Bachelor and Master students), the age distribution shows that Greek participants are significantly younger, as compared to Romanians ($t(191)=2.136$, $p=0.034$, 95% CI =(0.078 – 1.949).

Another expected result shows that Greek students have lower levels of completed education, as compared to Romanian students ($U=3087$, $z=-5.04$, $p<0.001$). However, for the UPT, there is no significant difference between males and females regarding the completed level of education ($p=0.421$). Within the ATEITH respondents, females have a higher level of completed education as compared to males ($U=672.5$, $z=-2.18$, $p=0.029$). Figure 6 shows that the majority of the Greek students have graduated high school level, while a significant proportion of the Romanian students have graduated bachelor or even master education level.

As for the graduated field, we acknowledge a wide diversity of domains. While the large majority have an engineering background (148 students), the rest of the respondents graduated economics (18 students), journalism (9 students), communication and public relations (7 students), public administration (6 students), mathematics-informatics (3 students), architecture (1 student) and dental medicine (1 student).

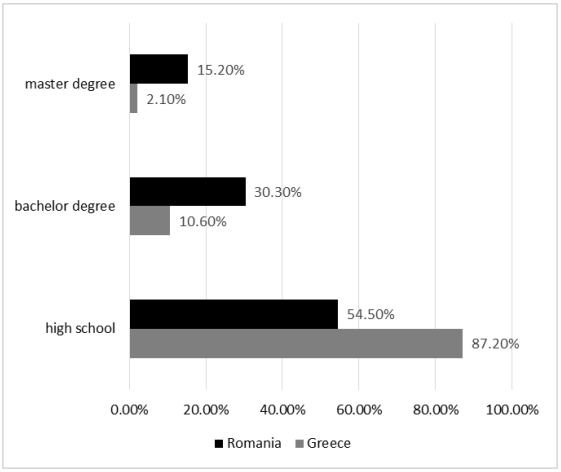


Fig. 6. The sample characteristics

VI. THE ENTREPRENEURIAL POTENTIAL AND EDUCATION

Two directions were followed to assess the entrepreneurial skills development (Figure 7). On the one hand, the entrepreneurial education transmitted through university courses and extracurricular activities was analyzed. On the other hand, the knowledge acquisition for entrepreneurship is assessed based on work experience, previous entrepreneurial experience, and family experience in the entrepreneurial field.

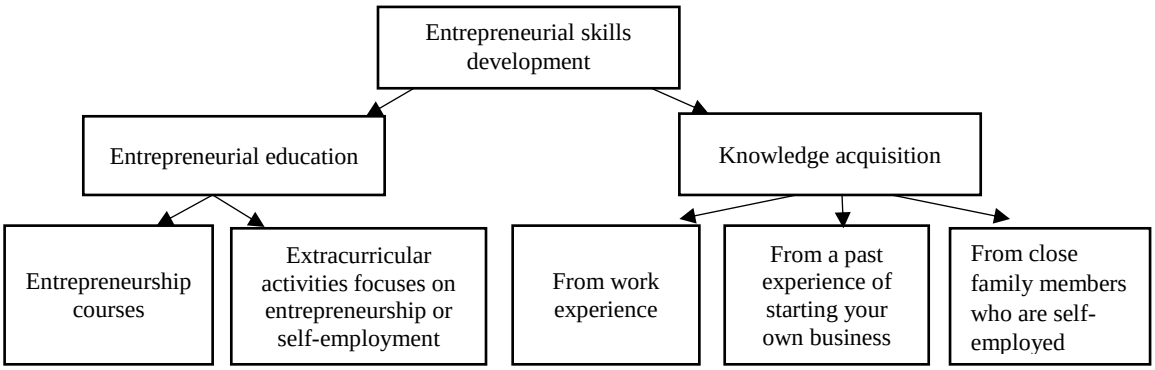


Fig. 7. Students' entrepreneurial skills

The students' enrollment in entrepreneurship courses did not show significant differences between the analyzed institutions ($p=0.378$). Nevertheless, within the UPT sample, males have significantly

attended more frequently entrepreneurship courses, as compared to females ($\chi2(1)=4.20$, $p=0.040$, $OR=2.38$). This is not the case for the ATEITH respondents, where no significant gender difference is recorded ($p=0.618$).

The results of the questions related to the entrepreneurial education reveal another interesting issue. On the one hand, in the case of complementary entrepreneurship courses, a lack of students' enrollment is seen in both universities. On the other hand, students hardly associated the followed courses (e.g. management general courses, marketing, communication skills are included in most of the specializations curricula at the Bachelor level, in both universities) with the entrepreneurial education. This outcome underlines an inappropriate transmission of entrepreneurial skill to students, in both technical universities. Teachers failed to show how their courses do contribute to the formation of entrepreneurial skills and competences.

The findings also show that the students' entrepreneurial skills were mainly acquired following the involvement in extracurricular activities that focus on entrepreneurship or self-employment. These activities are considered as more interesting and attractive ways for their entrepreneurial education [3]. However, in this case there is also an important discrepancy between the Romanian and the Greek students, explaining thus the different importance paid to entrepreneurship at national level. The UPT students have attended extracurricular activities related to entrepreneurship and self-employment 4.3 times more often in comparison with the ATEITH students ($\chi2(1)=21.33$, $p<0.001$, $OR=4.3$). This finding can be partially explained by different completed education levels characterizing the two samples. Furthermore, within the Romanian group, the differences between genders are not statistically significant ($p=0.786$). The responses show that 55.3% males and 52.5% females were involved in extracurricular activities in UPT. The Greek students (21.1% males and 21.7% females) are less involved in extracurricular activities dedicated to entrepreneurship or self-employment.

In terms of knowledge acquisition in the entrepreneurship field, the first analyzed item (Figure 7) is the work experience. In this case there is no significant difference related to the average length of the work experience between the respondents of the two institutions ($p=0.340$). Most of the Romanian students have less than one year of work experience (34.2% of the male and 68.9% of the female students). Furthermore, the females had significantly less work experience as compared to males ($U=758.5$, $z=-3.18$, $p=0.001$). While the Greek students have a similar short term work experience (64.9% of them have less than one year of work experience), the gender comparison shows a reversed result. In this case, females have significantly more work experience, in comparison to males ($U=610.5$, $z=-2.13$, $p=0.033$).

A second entrepreneurial knowledge acquisition item that has been analyzed is the past experience as entrepreneur (by analyzing the students' involvement in their own business). The findings of the survey show that 10.1% of the Romanian students have started a business in the past (23.7% males and 1.6% females), and 9.6% of the Greek students (8.5% males and 13% females). As we can notice, there is no significant difference between countries ($p=0.903$). However, while in Romania the male students are the ones who put into practice their entrepreneurial ideas ($p=0.001$ and Fisher's Exact Test), in Greece, the female students are those who present more developed entrepreneurial intentions, even if in this case there is no significant gender difference ($p=0.687$).

The final item analyzed is the contact with family members who are self-employed. According to the obtained results, 52.5% of the Romanian students and 58.5% of the Greek students have recognized that they have close family members who are self-employed. First, there is no difference between countries, related to the frequency of having close family members who are self-employed ($p=0.404$). Second, within the Romanian group of students, males declare having close family members who are self-employed more frequent than females ($\chi2(1)=6.29$, $p=0.012$), a result which sustains the previous findings showing a higher males involvement in entrepreneurial activities. Third, there is no significant gender difference in the case of the Greek group of students ($p=0.095$). All in all, students' hardly associate the contact with a family member who is self-employed as a source of entrepreneurship. The results of the second section of the questionnaires are synthesized in Table 1.

In the second step, we have analyzed students' confidence on their 20 abilities of becoming entrepreneurs (Table 2).

Table 1. Synthesis of the research results on education and knowledge acquisition in the field of entrepreneurship

Data process of YES answers	***Romania***	***Greece***
Entrepreneurship courses	37.4%	43.6%
Extracurricular activities on entrepreneurship or self-employment	53.5%	21.30%
Entrepreneurship education (average score)	*45.45%*	*64.90%*
Entrepreneurship knowledge acquisition from work experience	55.60%	64.90%
Entrepreneurship knowledge acquisition from past experience on starting own business	10.10%	9.60%
Entrepreneurship knowledge acquisition from self-employed family members	52.50%	58.50%
Entrepreneurship knowledge acquisition (average score)	*39.40%*	*22.70%*

Table 2. Students' confidence in their entrepreneurial abilities

How much confidence do you have in your ability to....?	***Average confidence score (1 low …5 highest confidence):***		***Entrepreneurship education subjects***
	Romania	***Greece***	
1. Lead and manage a team	3.71	3.49	Human resource management
2. Identify ways to combine resources in new ways to achieve goals	3.49	3.41	Innovation and creativity
3. Manage time during projects	3.58	3.34	Project management
4. Brainstorming for new ideas discovering	3.64	3.54	Innovation and creativity
5. Put together the right group/team in order to solve a specific problem	3.81	3.36	Human resource management
6. Conduct analysis for a project that aims to solve a problem	3.44	3.33	Business analytics and management
7. Read and interpret financial statements	2.74	2.79	Project management (Accounting and finance)
8. Identify potential sources of resources	3.23	3.05	Business analytics and management
9. Persist in the face of setbacks	3.17	3.04	Risk management
10. Networking capacity and skills	3.71	3.47	Communication
11. Set and achieve project goals	3.80	3.77	Project management
12. Learn from failure	4.21	4.05	Risk management
13. Get others to identify with and believe in my visions and plans	3.62	3.50	Human resource management
14. Clearly and concisely explain verbally/in writing my ideas in everyday terms	3.46	3.17	Communication
15. Manage uncertainty in projects and processes	3.21	3.23	Risk management
16. Work productively under continuous stress, pressure and conflict	3.28	3.21	Human resource management
17. Think outside the box	3.78	3.72	Innovation and creativity
18. Estimate a budget for a new project	3.19	3.72	Project management (Accounting and finance)
19. Easy find a solution for each problem	3.69	3.54	Innovation and creativity
20. Start his/her own business	3.88	3.64	Business analytics and management

These abilities are afterwards confronted with related education subjects that are usually included in entrepreneurship training programs, in order to identify students' entrepreneurial education needs (Table 3). This analysis does not intend to underline gender discrepancies.

As revealed by the set of 20 questions (Table 2), both Greek and Romanian students prove a high confidence related to their entrepreneurial abilities (3.41 and 3.54 respectively). Which are, however, the university courses that contribute to this high confidence? For the Romanian respondents (Table 3), we see that a small confidence and less skills are provided by the project management (including accounting and finance), and a big confidence and good skills are related to innovation and creativity, human resource management and communication.

This result might have two explanations.

- On the one hand, the project management and financial courses may seem as too technique and may fail in transmitting entrepreneurial abilities.
- On the other hand, a good understanding of all elements implied by business development, including planning and financing, may determine students to become less confident in their ideas, given the complexity of tasks involved by business development.

Greek students have small confidence and skills in communication, but big confidence and good skills in innovation and creativity, risk management and project management (Figure 8).

Table 3. Students' confidence on their abilities related to education subjects in the field of entrepreneurship

Entrepreneurship education subjects:	***Average confidence score***	
	Romania	***Greece***
Business analytics and management	3.52	3.34
Human resource management	3.61	3.39
Project management (including accounting and finance)	3.33	3.41
Innovation and creativity	3.65	3.55
Risk management	3.53	3.44
Communication	3.59	3.32

Total average score	***3.54***	***3.41***

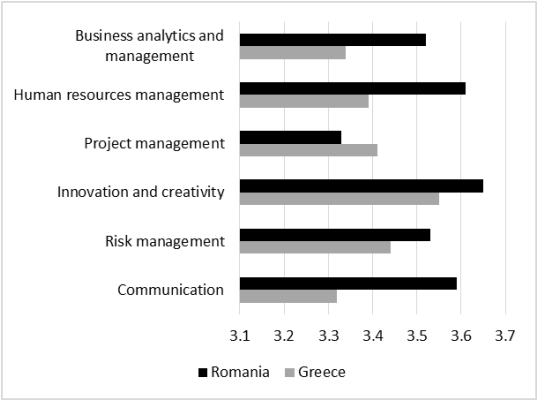


Fig. 8. Graphical representation of students' confidence

VII. CONCLUSIONS

The purpose of the present study was to provide an answer to the following question: How should the entrepreneurship education in technical universities (particular in the case of UPT and ATEITH) be reconsidered to create effectiveness and satisfaction for their students? In order to find an answer to this question, we have made an institutional comparison, starting from the assessment of the entrepreneurial potential of Romania and Greece, using the GEM statistics.

At national level, it seems that Romania has a greater entrepreneurial potential than Greece, although it is considered an efficiency and not an innovation-driven economy. These results are correlated with the institutional-level findings.

For assessing the impact of entrepreneurial education and entrepreneurial knowledge acquisition in the two technical universities, 193 questionnaires were collected. In general, the recognition of the entrepreneurial education is higher in Greece (64.90% of Greek students have respond with "yes") than in Romania (45.45%). However, acquiring entrepreneurial skills from alternative sources (work experience, self-employment) is not seen as the best practice by students from both countries (only 39.40% of Romanian students and 22.70% of Greek students have respond with "yes").

The synthesis and conclusions of the research results related to students' confidence on their 20 abilities related to entrepreneurial skills, and their connection with the education in the field have been analyzed and debated by teachers and trainers from both universities, in order to re-design the university curricula. While in Greece there is a strong need for communication and business analytics and management skills development, in Romania the strong need is for project management skills and financial skills development.

These results have practical implications for universities' managers who shall enhance the entrepreneurship curricula followed by students of all specializations. This curricula should be interdisciplinary and different faculties and departments from both institutions should be involved.

Our findings have also practical implications for researchers acting in the entrepreneurial education field in both institution, who must cooperate in order to develop good practices and to help designing adequate programs for entrepreneurship.

Several limitations characterize our research. First, the small sample size can bias the results. Second, there is a high diversity of respondents regarding their undergraduate studies. Third and most important, the comparison is made considering in particular students from Bachelor level in Greece, and students from Master level in Romania. The entrepreneurial perception evolves and the entrepreneurial skills are progressively acquired. Therefore, a better perception of Romanian students about their knowledge acquisition in the field, as compared to the Greeks, is quite normal.

Finally, our research has an interesting outcome. We notice that in Greece, which according to Hofstede [24] is a masculine country (MAS 57) compared to Romania (MAS 42), female students are more entrepreneurship oriented, while in Romania the male students are more confident in their entrepreneurial skills and they are those who usually start a business.

VII. ACKNOWLEDGEMENTS

The authors gratefully acknowledge the support of students of the ATEITH, Greece and the UPT, Romania, who have accepted their involvement in the research survey. In addition, this work was supported by a grant of the Romanian National Authority for Scientific Research and Innovation, CNCS – UEFISCDI, project number PN-II-RU-TE-2014-4-1760. Any findings, results, or conclusions expressed in this article, belong to the authors and do not necessarily reflect the views of the national authority UEFISCDI.

REFERENCES

[1] Albulescu, C. T. & Tamasila, M. (2016). Exploring the FDI role in enhancing the entrepreneurial activity in Europe: a panel data analysis. *International Entrepreneurship and Management Journal*, *12(3)*, 629-657.

[2] Davidsson, P. (2015). Entrepreneurship Programs and the Modern University. *Academy of Management Learning & Education*, 14(1), 139-142.

[3] Draghici, A., Siakas, K., & Albulescu, C. T. (2016). Comparison between entrepreneurship education in Romania and Greece - the case of two higher education institutions. ERiE 2016 conference, Prague, Czech Republic, pp. 87-98.

[4] European Commission (2014). Final Report of the Thematic Working Group on Entrepreneurship Education', Retrieved from: http://ec.europa.eu/education/policy/strategic-framework/archive/documents/entrepreneurship-report-2014_en.pdf.

[5] GEM (2016). *GEM 2015/2016 Global Report*, Retrieved from: http://www.gemconsortium.org/report.

[6] Krueger, N. (1993). The impact of prior entrepreneurial exposure on perceptions of new venture feasibility and desirability. *Entrepreneurship Theory and Practice, 18(1),* 5-21.

[7] Kuratko, D. F. (2016). *Entrepreneurship: Theory, process, and practice*. Cengage Learning.

[8] Marlow, S., & McAdam, M. (2011). Analyzing the influence of gender upon high-technology venturing within the context of business incubation. *Entrepreneurship Theory and Practice*, *36(4)*, 655-676.

[9] Martin, B. C., McNally, J. J., & Kay, M. J. (2013). Examining the formation of human capital in entrepreneurship: A meta-analysis of entrepreneurship education outcomes. *Journal of Business Venturing*, *28*(2), 211-224.

[10] Matthews, C. H., & Moser, S. B. (1996). A longitudinal investigation of the impact of family background and gender on interest in small firm ownership. *Journal of Small Business Management, 34(2),* 29-43.

[11] Nabi, G., Walmsley, A., Liñán, F., Akhtar, I., & Neame, C. (2016). Does entrepreneurship education in the first year of higher education develop entrepreneurial intentions? The role of learning and inspiration. *Studies in Higher Education*, http//doi.org/10.1080/03075079.2016.1177716.

[12] Nabi, G., Liñán, F., Krueger, N., Fayolle, A., & Walmsley, A. (2016). The impact of entrepreneurship education in higher education: A systematic review and research agenda. *Academy of Management Learning & Education*, http//doi.org/10.5465/amle.2015.0026.

[13] Reynolds, P. D., Bygrave, W. D., & Autio, E. (2004). Global entrepreneurship monitor 2003 executive report, Babson Park, MA: Babson College.

[14] Riel, A., (2006). *EU Certificates and Knowledge Communities in Europe: An Unbeatable Symbiosis*, keynote at EQN Founding and Dissemination Conference, Krems, Austria, CD-ROM.

[15] Robinson, P. B., & Sexton, E. A. (1994). The effect of education and experience on self-employment success. *Journal of business Venturing*, *9*(2), 141-156.

[16] Sánchez-Escobedo, M. C., Fernández-Portillo, A., Díaz-Casero, J. C., & Hernández-Mogollón, R. (2016). Research in entrepreneurship using GEM data. Approach to the state of affairs in gender studies. *European Journal of Management and Business Economics, 25(3),* 150-160.

[17] Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review, 25(1),* 217-226.

[18] Tamasila, M., Taucean, I. M. & Albulescu, C. T. (2015). Entrepreneurship education at Politehnica University of Timisoara, Romania, Procedia of the MakeLearn & TIIM Joint International Conference 2015, Bari, pp. 1271-1282.

[19] Thrane, C., Blenker, P., Korsgaard, S., & Neergaard, H. (2016). The promise of entrepreneurship education: Reconceptualizing the individual-opportunity nexus as a conceptual framework for entrepreneurship education. *International Small Business Journal*.

[20] Welsh, D. H., & Dragusin, M. (2013). The new generation of massive open online course (MOOCS) and entrepreneurship education, *Small Business Institute Journal*, vol. 9, no. 1, pp. 51.

[21] Wilson, F., Kickul, J., & Marlino, D. (2007). Gender, entrepreneurial self-efficacy, and entrepreneurial career intentions: Implications for entrepreneurship education. *Entrepreneurship Theory and Practice, 31(3),* 387-406.

[22] Wong, P. K., Ho, Y. P., & Autio, E. (2005). Entrepreneurship, innovation and economic growth: Evidence from GEM data. *Small Business Economics*, *24*(3), 335-350.

[23] Zhao, H., Seibert, S. E., & Hills, G. E. (2005). The mediating role of self-efficacy in the development of entrepreneurial intentions. *Journal of Applied Psychology*, *90(6)*, 1265-1272.

[24] Hofstede, G. (2001). *Culture's consequences: comparing values, behaviours, institutions, and organisations*, Thousand Oaks, California, London: Sage Publications.

.